

CompleteView™
Camera Supplement
Sony IP Cameras

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Introduction

The purpose of this document is to provide guidelines for connecting the specific manufacture's camera to the network and insure proper operation within CompleteView. The IP camera should have included a utility to discover and configure the IP address of the camera. If you did not receive this tool, you can obtain it from the manufacture's [website](#). For Sony, download *IP Setup Program* or *SNC Toolbox*. This document will focus on the *IP Setup Program* since it is easier to set up IP addresses in this utility, but either program can connect and configure the cameras. For assistance with the use and operation of these Sony tools, please contact [Sony](#).

Before You Install

Make sure the target computer meets or exceeds CompleteView's minimum system requirements.

CompleteView Client Applications	CompleteView Server Applications
<ul style="list-style-type: none">Operating Systems: Windows XP Professional, Windows 7 Professional or Ultimate, or Windows VistaCore 2 Duo 2.0 Ghz or higher2 GB RAM or higherVideo Card w/ 256 MB RAM or higher10/100/1000 Ethernet Controller	<p>Systems with analog capture cards:</p> <ul style="list-style-type: none">Windows XP ProfessionalWindows Server 2003 Web EditionWindows 7 Professional 32 bit <p>Systems with IP only configuration:</p> <ul style="list-style-type: none">Windows XP ProfessionalWindows Server 2003 Standard and Web EditionWindows 7 Professional 32 and 64 bitWindows Server 2008 StandardWindows Server 2008 DataCenterWindows 2008 Web Server <p>All Servers must have the following:</p> <ul style="list-style-type: none">Microsoft DirectX 9.0c or laterMinimum of 2 GB system MemoryGraphics Card with at least 256 MB RAM <p><i>Note: Server hardware requirements vary based on the cameras used and recording configuration. Please use the Salient Design Tool to calculate specific server requirements or contact Salient Systems Engineers at 512-617-4800.</i></p>

Pre Installation Check List

- ☐ Verify all cameras that will be managed by CompleteView are listed on the [CompleteView Supported Cameras](#) list.
- ☐ DHCP or dynamic IP addressing is supported in many cameras; it is recommended using static IP addresses for the cameras.

Note: This will prevent network events from changing the IP address of the cameras, which could cause a loss of connection from the camera to CompleteView making the system unable to record video from the camera until the address is changed. To prevent this from occurring when using DHCP, make a Reservation for each cameras MAC address with a Lease Expiration set to Never. If an address reassignment occurs, the corrective action would be to either set the IP address in the camera back to the original IP address or update the configuration of the CompleteView server to the new IP address of the camera.

- ☐ Download the camera manufacture's camera utility

Getting Connected

Finding the Camera

1. Open Sony's *IP Setup* utility to find the cameras connected to the network
2. Select the camera to edit the camera IP properties.
3. Select *Use the following IP address* and enter the IP address you want to assign the camera which included
 - a. IP address
 - b. Subnet mask
 - c. Default Gateway
4. Under *HTTP port no.* leave this to 80
5. Enter an Administrator Name and Password if you want to change the defaults. Please note the new Administrator Name and Password as you will need these in CompleteView.
 - a. Default Administrator Name – admin
 - b. Default Password – admin

MAC address	IP address	Model	Serial No.	Version No.
54-42-49-ab-0d-2a	DHCP	SNC-DH140	116427	1.50.00
54-42-49-19-cb-e0	192.168.1.165	SNC-DH180	100244	1.34.00

☒ Obtain an IP address automatically
☐ Use the following IP address

IP address:
Subnet mask:
Default gateway:

☒ Obtain DNS server address automatically
☐ Use the following DNS server address

Primary DNS server address:
Secondary DNS server address:
Third DNS server address:
Fourth DNS server address:

HTTP port No. ☒ 80 ☐ (1024 to 65535)
Administrator name:
Administrator password:

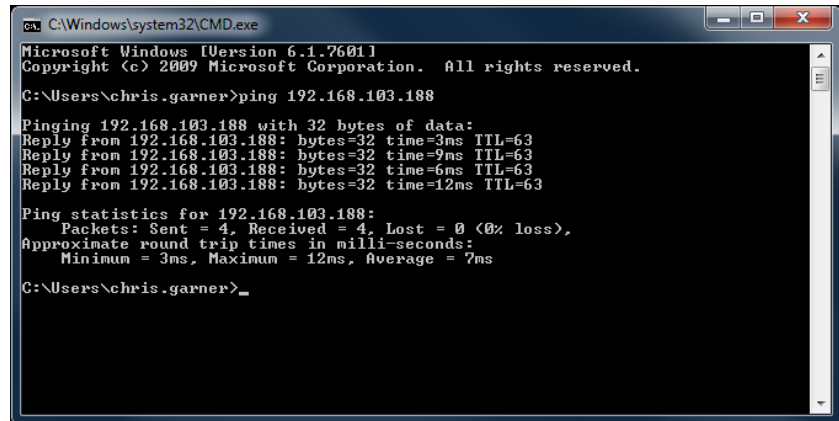
Reboot Cancel OK

Note: If you have a DHCP server (router) on the network then DHCP can be used by selecting *Obtain an IP address automatically*.

Verifying Connectivity

Prior to attempting to connect a camera to Complete View, verify the server and camera can communicate by pinging the camera.

1. Open a command prompt by selecting the start menu and enter *CMD* in the search/run field.
2. Enter *ping "ip address"*
 - a. Where IP address is the IP address of the camera.
 - b. Press *Enter*
3. The result should be four packets sent and four packets received for 0% loss. If a "Request timed out" or 'Destination host unreachable' is seen, check the network connection and configuration.



```
C:\Windows\system32\CMD.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\chris.garner>ping 192.168.103.188

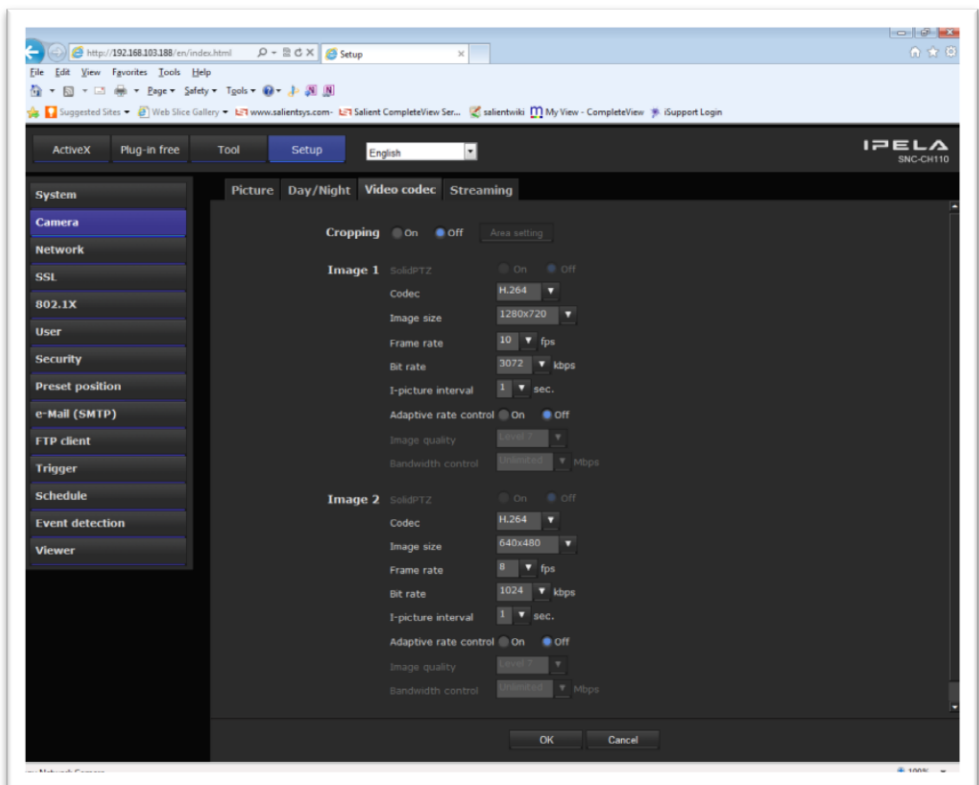
Pinging 192.168.103.188 with 32 bytes of data:
Reply from 192.168.103.188: bytes=32 time=3ms TTL=63
Reply from 192.168.103.188: bytes=32 time=9ms TTL=63
Reply from 192.168.103.188: bytes=32 time=6ms TTL=63
Reply from 192.168.103.188: bytes=32 time=12ms TTL=63

Ping statistics for 192.168.103.188:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 12ms, Average = 7ms

C:\Users\chris.garner>
```

Verifying Camera Setting through the Web Interface

1. Open your web browser and enter the IP address of the camera into the address field.
2. Login using the Administrator Name and Password
3. Select the *Setup* menu
 - a. Select the *Camera* menu
 - b. Select *Video Codec* tab
 - c. Verify the Image 1 or 2 codec is set to match the stream type set in CompleteView for the image path path chosen.



Recommendations

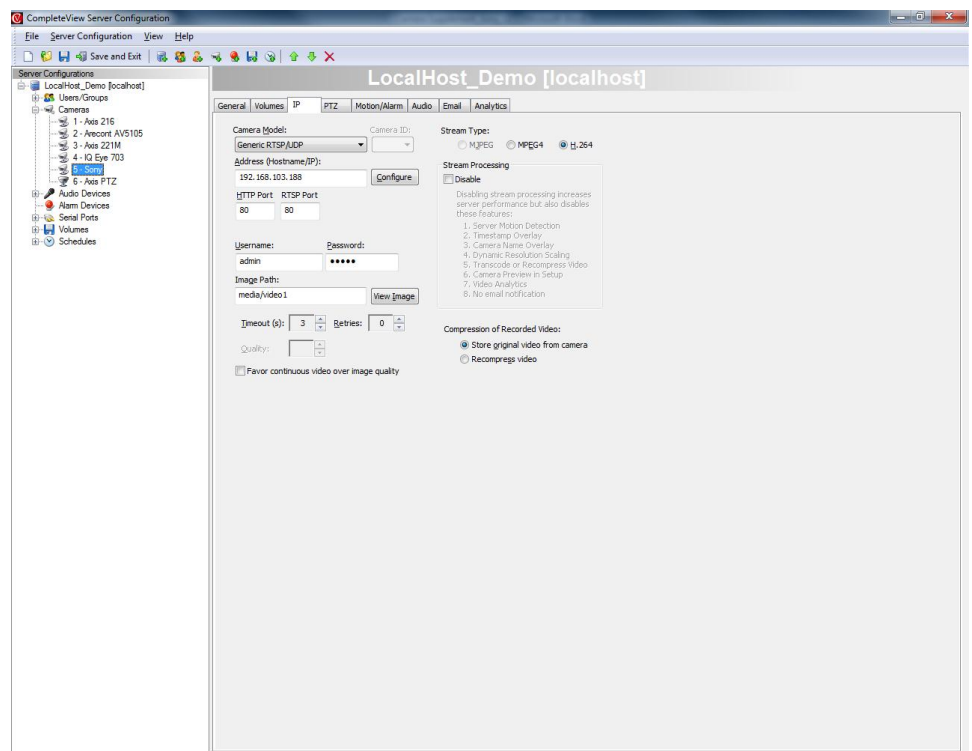
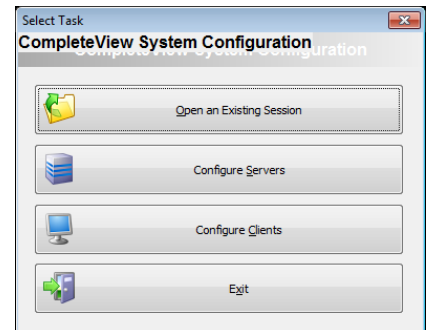
Sony does provide recommended bit rates of the IP cameras based on the resolution and scene activity. Adjusting the camera accordingly will provide the best performance per Sony's recommendations.

<div> <div>SONY</div> <div>make.believe</div> </div>		Recommended Bit Rates								
		Activity Level								
		Low Activity			Normal Activity			Very High Activity or PTZ Tours		
		Resolution			Resolution			Resolution		
Compression	Frame Rate	VGA/D1	720P/1.3MP	1080P/3MP	VGA/D1	720P/1.3MP	1080P/3MP	VGA/D1	720P/1.3MP	1080P/3MP
H.264	25 - 30	768k	2M	3M	1M	3M	5M	2M	4M	6M
	15 - 20	512k	1.5M	2M	768k	2M	4M	1.5M	3M	5M
	8 - 10	386k	1M	1.5M	512k	1.5M	3M	1M	2M	4M
	2 - 5	256k	768k	1M	386k	1M	2M	768k	1.5M	3M
MPEG4	25 - 30	1M	3M	5M	1.5M	4M	6M	3M	6M	8M
	15 - 20	768k	2M	4M	1M	3M	5M	2M	4M	6M
	8 - 10	512k	1.5M	3M	768k	2M	4M	1.5M	3M	4M
	2 - 5	386k	1M	2M	512k	1.5M	3M	1M	2M	3M

Configuring CompleteView

Once the cameras are configured with the appropriate IP address and the camera settings are correct, launch the CompleteView System Configuration.

1. Select *Configure Servers*
2. Go to the Server Configuration menu
3. On the drop down menu select *Camera*
4. Then select *Add Camera*
5. Enter the camera name
6. Select from the camera model drop down menu the appropriate driver.
7. Enter the IP address of the camera
8. Select the Stream Type
 - a. This is the codec mentioned in the Verifying Settings through the Web Interface
9. Enter the HTTP and RTSP port numbers
10. Enter the Username and Password
 - a. These are the Administrator Name and Password for the Sony camera
11. Verify the image path



Connecting with Camera Specific Driver

Select the appropriate Sony model listed in the drop down menu under Camera Model. Enter the IP address of the camera and the username and password. Select the stream type being sent from the camera to CompleteView. If

camera model is not listed in the drop down menu or none of the listed models work with the camera, then a Generic Driver could be used.

Connecting with RTSP/HTTP Driver

Select the Generic RTSP/HTTP Driver listed in the drop down menu under Camera Model. Enter the IP address of the camera and the username and password. The stream type will need to be selected based on what is being sent from the camera and can be verified by using the steps mentions in the Verifying Settings through the Web Interface section. Insure the HTTP port is set to 80 and the RTSP port is set to 80. The Image Path for the video stream will also need to be set. The image path to enter for Sony is:

media/video1

or

media/video2

Note: *The number at the end of the image path needs to match the Image number in the cameras web interface that will be used for the stream to CompleteView.*

Connecting with Generic RTSP/UDP Driver

Select the Generic RTSP/UDP Driver listed in the drop down menu under Camera Model. Enter the IP address of the camera and the username and password. The stream type will need to be selected based on what is being sent from the camera and can be verified by using the steps mentions in the Verifying Settings through the Web Interface section. Insure the HTTP port is set to 80 and the RTSP port is set to 554, which are the defaults. The Image Path for the video stream will also need to be set. The image path to enter for Sony is:

media/video1

or

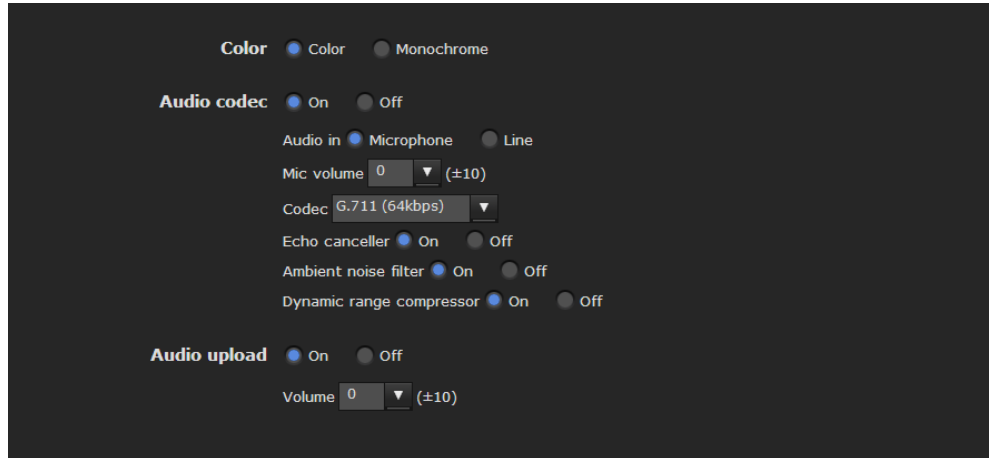
media/video2

Note: *The number at the end of the image path needs to match the Image number in the cameras web interface that will be used for the stream to CompleteView.*

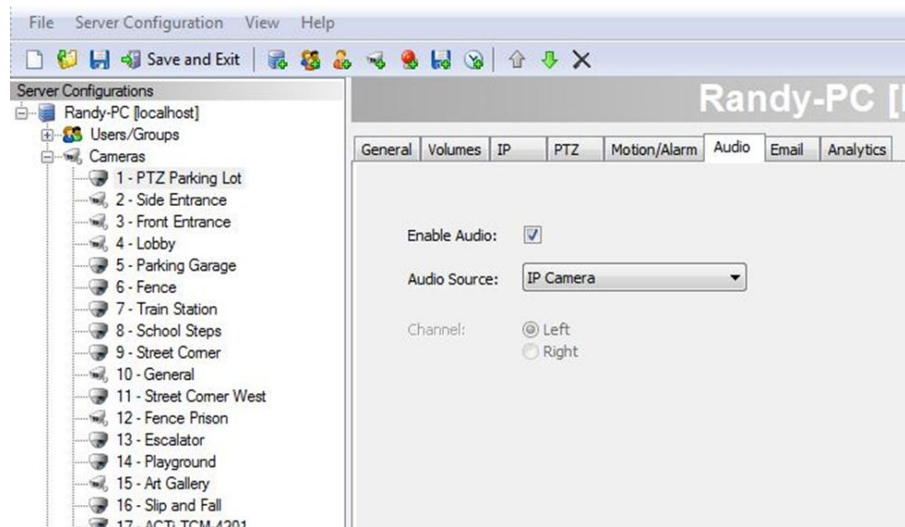
Configuring Audio Support

Prior to configuring audio you must verify you have an audio feature key for the system.

1. Insure Audio is configured in the camera
 - a. Login to the web interface of the camera
 - b. Select *Setup*
 - c. Select *Camera*
 - d. Select *Common* tab
 - e. Under the audio codec section select “on” and set the *Codec* to “G.711 (64 kbps)”
 - f. Refer to the camera installation manual for information on each of the camera parameters.



2. Launch CompleteView System Configuration
3. Select *Configure Servers*
4. Go to the Sony camera you created previously, found in the camera section under the appropriate server
5. In the IP tab the *Generic RTSP/UDP* driver will need to be selected for the *Camera Model*.
6. On the *Audio* tab select *Enable Audio*
7. For *Audio Source* select *IP Camera*
8. Save configuration to server

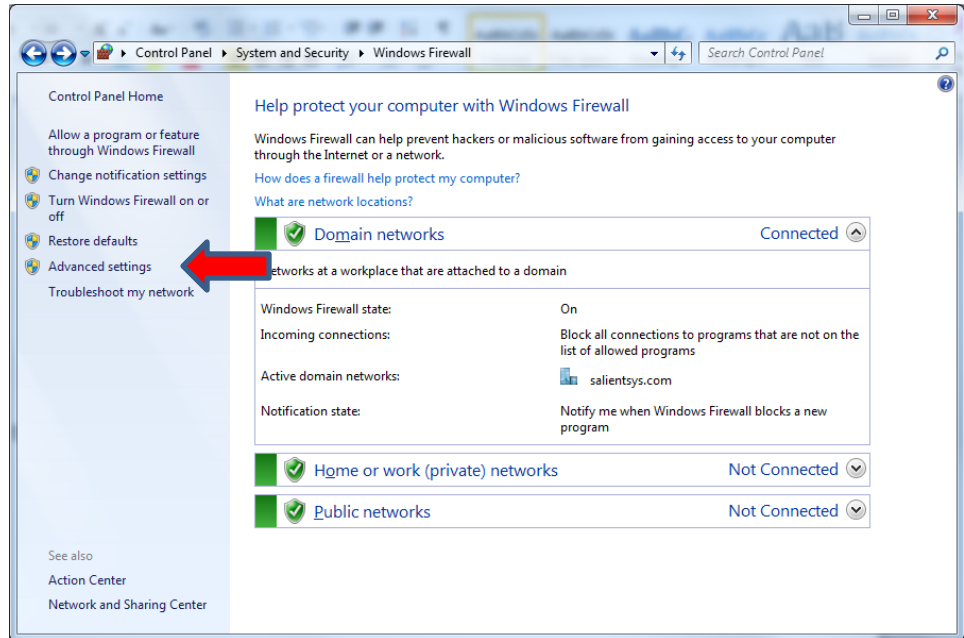


Troubleshooting

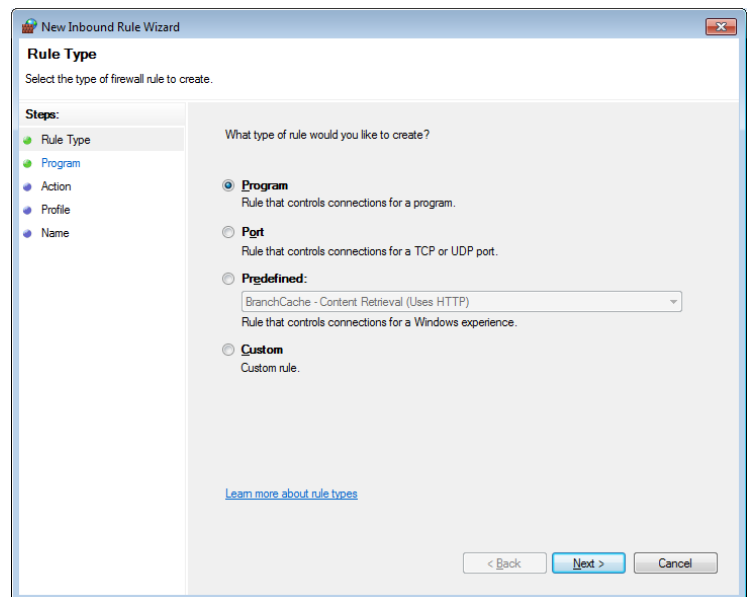
Configuring the Firewall

If the video is unable to be displayed on the PC the firewall may need to be disabled or add an exception to the firewall to allow the UDP traffic from the camera to be received on the PC.

1. Open the control panel
2. Select *Windows Firewall*
3. Select *Advanced settings*
4. Select *Inbound Rules* in their left pane
5. Select *New Rule* in the right pane



6. A wizard will be displayed and assist you in creating the new rule. The steps are listed along with our recommendations for the settings of the new rule:
 - a. Rule Type:
 - i. select the Port rule type, which controls connections for TCP or UDP ports.
 - b. Protocols and Ports:
 - i. Select *UDP*
 - ii. Select *Specific local ports* and enter 6970-7225. This will only open the range of ports needed for RTSP/UDP streams.
 - c. Action:
 - i. Select *Allow the connection*
 - d. Profile:
 - i. Select *Domain*, *Private*, and *Public* checkboxes
 - e. Name
 - i. Provide a name and description of the rule
 - ii. Press *finished*



This will enable all UDP traffic to pass through the firewall to the PC.

For a customer running on Windows Server 2003, we have successfully used the following commands to open and close, respectively, this range of UDP ports:

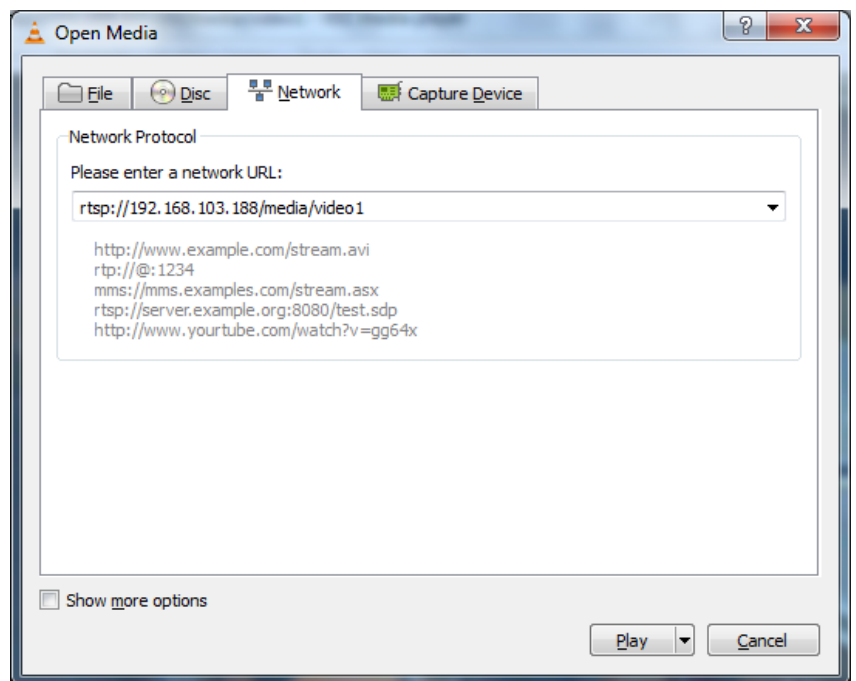
```
FOR /L %I IN (6970,1,7225) DO netsh firewall add portopening UDP %I "CompleteView RTSP"%I
```

FOR /L %I IN (6970,1,7225) DO netsh firewall delete portopening UDP %I

Verifying Generic Driver Path

Verifying the video path is correct can be useful if you are having difficulty in connect the camera to CompleteView. To verify the video stream form the camera, test with a standalone software video decoder such as VLC media player. This can be obtained from <http://www.videolan.org/vlc/>.

1. From the Media menu of VLC Media Player select Open Network Stream, which will open a new window.
2. In the field *Please enter a network URL:* enter the string `rtsp://”IP_address”/media/videoX`.
 - a. Replace “IP_address” with the IP address of the camera and for videoX insert either 1 or 2 to identify the correct image stream.
 - b. This video from the camera should be displayed in VLC.



Appendix A: Software Guidelines and Best Practices

CompleteView Settings	
IP Cameras	<p>Make sure your cameras are on the CompleteView Supported Cameras list.</p> <p>Configure resolution, maximum frame rate, and compression settings using the camera manufacturer's setup tools and/or software.</p> <p>If you require time stamp and camera name overlay and are not recompressing the IP video stream, make sure these settings are configured on the camera using the camera manufacturer's setup tools and/or software. Unless you have chosen to recompress the video stream on the <i>IP</i> camera setup tab in CompleteView, the time stamp and camera name will not display in recorded video, even if it is enabled on the <i>General</i> setup tab within CompleteView System Configuration.</p> <p>The recording frame rate settings must be configured via the IP camera manufacturers setup tools/software, otherwise if left as default CompleteView will record the rate the IP camera is defaulted to. <i>Exception: Arecont cameras will utilize the fps settings on the CompleteView System Configuration Camera Setup General Tab fps settings for scheduled, alarm, and motion recording.</i></p>
PTZ Cameras	<p>PTZ Cameras should be setup for scheduled recording and not motion recording.</p>
Motion Zones	<p>Avoid areas of constant motion such as trees, shadows, busy streets, etc.</p> <p>Test the configured sensitivity settings before finalizing your configuration to ensure a low level of 'false alarms'.</p> <p>Review recordings after a few days of operation to make sure the motion settings are configured properly.</p>
Storage Volume Threshold	<p>For optimal performance, verify each recording volume's threshold is set to a minimum of 5% of the total storage capacity of the volume.</p>
RAID Arrays	<p>If you have more than one storage array, it is recommended to split the camera recording between the arrays to maximize I/O performance. Ex. 50 total cameras – setup 1-25 to write to first array, and 26-50 to write to the second array.</p> <p>Schedule or perform periodic consistency checks during off hours to assist in finding drive/array failure detection. This will ensure optimal performance of the storage array.</p>

System Settings & General Best Practices

System Hardware Drivers

Make sure you have current/stable drivers for the system's chipset, RAID Controller (firmware, driver), video adapter and network controller.

Make sure to have current/stable bios for your specific motherboard.

Make sure to read all release notes for driver compatibility with your current hardware set, as not all driver/bios updates are necessary unless they have a fix for a current issue that you are experiencing.

System Settings

Important: Disable Windows indexing on all recording volumes.

If running an antivirus application disable real-time file scanning and scheduled scans on all recording volumes.

Set Performance Options to *adjust for best performance* on the operating system.

It is recommended that you configure your operating system on a dedicated partition. This partition should not contain any video recording volumes. It is also recommended that sizing be a minimum of 50GB.

Note: If you purchased a Salient NVR the setting recommendations listed under *System Settings & General Best Practices* have been preconfigured at the factory.

Additional Resources

Visit the Salient website, www.salientsys.com, for additional support and CompleteView training:

- **Manuals & Documentation** (www.salientsys.com/support/manuals-documentationx/) – Includes Administrator’s Manual, Client User Manuals (including Video, Alarm and Web clients), How To Guides and Tips.
- **Online Tech Support** (www.salientsys.com/elearning) – Get quick access to online tech support modules that cover the most frequently asked product questions, such as “Adding and Moving IP Camera Licenses.”
- **Salient University eLearning**
 - User Training (<http://salientsys.latitudelearning.com>) – A convenient way to get trained on CompleteView. Register online for access to interactive, user training modules covering the Video, Alarm, Mapping and Web clients.
 - Reseller/Integrator Certification Training – For our resellers and system integrators, we offer online certification training. [Login](#) to Salient reseller website to begin.
- **Classroom Training** (www.salientsys.com/training) – Traditional, classroom training is available throughout the United States. Please visit the Salient website for training calendar, agenda and registration.

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